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Introduction

Mark Addis (St. Mary's University) and Christopher Winch (King's College London)

This volume brings together a number of related contributions on the topic of expertise and education. Expertise is a topic that is beginning to receive more attention in the Philosophy of Education and discussions are closely related to the epistemological debate concerning the nature of know-how which has also burgeoned in recent years within 'mainstream' epistemology. More specifically, this volume focuses on the relevance of expertise to professional education and practice, with the aim on shedding light on what is involved in professional expertise and the implications of a sound understanding of professional expertise for professional education.¹ Although all contributions have roots in philosophical discussion, there is an element of cross-disciplinarity among them, reflecting the advances that have been made to our understanding of expertise from psychology in particular.

Two senses of expertise

It cannot be stressed too much that any philosophical engagement with expertise and professional education will need to take account of the seminal work of Gilbert Ryle in two important respects (see the extended discussion of Ryle by Lum in this volume). The first is his characterisation of 'intelligence epithets' (Ryle 1946, 1949) as applicable to know-how in a way that they are not applicable to singular attributions of propositional knowledge. Ryle's discussion of intelligence epithets has not received the attention that it deserves, but is important in understanding how expertise is related to know-how. Second, Ryle's discussion of 'adverbial verbs' (Ryle 1979) alerts us to the difficulties of characterising all know-how, and by implication professional expertise, in terms of skills. Ryle's account of adverbial verbs is particularly important for a range of professional activities which cannot be adequately be characterised as skills: planning, co-ordination, communication, control and evaluation, which are all characteristics of occupations whose practice requires a degree of independence, teamwork and professional discretion. The vocational education and training (VET) systems of some countries such as Germany place a particular emphasis on such attributes calling them (*Fähigkeiten*) as opposed to skills (*Fertigkeiten*) (see Hanf 2011).

¹ By 'professional education' we mean not only the education of the recognised professions and the semi-professions (Etzioni 1969), but also the education of those engaging in non-professional but recognised occupations.

Although Ryle is referred to intermittently in this volume, the relevance of his contributions in this area looms large. These contributions touch on a number of themes which are important in understanding expertise and, perhaps even more important, in avoiding confusions about it.

The first is a potential confusion about whether expertise is something that one has in virtue of possession of a certain kind of know-how. Thus, I could be said to be an expert in English in virtue of it being my mothertongue (Collins 2013 and for a critique see Addis 2013). In this sense, all native speakers of English are experts in English.² Let us call this the *constitutive* sense of expertise. We will be interested in this sense of ‘expertise’, particularly in relation to the contrast between someone who is competent in an occupation and someone who is not, and it is important to recognise this sense of ‘expertise’, as it is sometimes confused with the other sense, which is also important to our discussion. This is the idea that for a given activity-type or occupation, someone can be more expert than another practitioner. Let us call this the *relative* sense of expertise. It is common to claim that not only can one identify one practitioner’s expertise relative to another’s, but that one can give an account of what this difference in expertise consists in. Sometimes this is done through a graded hierarchy ranging from novice to expert as in the popular schemata set out by Hubert and Stuart Dreyfus (e.g. Dreyfus and Dreyfus 1996). It can also be done less formally by appealing to the Rylean notion of an intelligence epithet which yields appropriate evaluative vocabularies relating to the various dimensions which relative expertise involves: situational, technical, theoretical, moral and aesthetic, all related to the particular sphere of activity in which they are applied.

It is important to keep these senses of ‘expertise’ distinct, because of our interest not only in whether or not someone is capable at some threshold level of practising an occupation, but also in the degree to which someone advances in relative expertise by comparison to their previous level of competence and in their expert standing within the occupation relative to others. This concern is evident in the papers by Gobet on the detail of expertise amongst already-competent chess players as opposed to masters and grandmasters, in Bucelli’s concern with independent action within teaching, in Winch’s concerns with how growing

² Strictly, in informal spoken English. They may not even be competent in writing and in certain genres of speech (e.g. rhetoric) or in writing. We can also apply the concept of relative expertise to all of these categories of mastery of English.

perceptual ability is part and parcel of growing expertise and in Keesstra's with characterisations of the growth of expertise.

Why is it important for professional education that these two senses be kept distinct from each other? There are two main points. The first is concerned with initial qualification and licensure within an occupation. A qualification is a guarantee, not just to the practitioners of the occupation but to the public and society at large that the holder can practice that occupation to at least a threshold degree of competence. The importance of such guarantees can hardly be exaggerated since they not only concern efficiency in practising the occupation but also the protection of client and public welfare. This applies across a vast range of occupations, not just the recognised professions and semi-professions. Initial professional qualifications are primarily concerned with the *constitutive* sense of expertise as they are expected to guarantee that a holder can operate at a threshold level of competence that at the very least marks him or her as more capable than a layperson. On the other hand, it may also be that an initial qualification aims to distinguish between degrees of competence. BTEC qualifications which award a pass, a merit or a distinction are examples of such qualifications (e.g. Edexcel 2008). In this case, expertise is being assessed in a relative sense as well within the same qualification.

The second point concerns progression within an occupation. A conscientious practitioner will be expected to improve with experience and further study. We would expect an increasing range of positive intelligence epithets to apply to their professional actions. Whether we make informal judgements about this growth in ability or seek to formalise it with post-initial qualifications, we are here concerned with the relative sense of expertise, considering progression in excellence within an occupation. Here another important theme emerges, the idea that expertise in this sense involves the pursuit of excellence within the occupational field. It is noteworthy that some national VET systems, such as that of Germany, have enhanced professional educational qualifications recognised at level 6, which are generally called *Meister* qualifications, which demand not just technical excellence in the chosen occupation, but also pedagogic and entrepreneurial ability. A Meister would typically have responsibility for the workplace learning of those pursuing an initial qualification in his/her enterprise, *Auszubildende* or apprentices. Thus progression within the occupation is not just a matter of ascending levels of technical competence, but also of increasing

polyvalence in activities (see Syben 2008 for a comparison of how this is handled in the German and Hungarian construction sectors).

The intellectualist-anti-intlectualist debate and its relevance to professional action.

The second major theme concerns the relationship between the so-called intellectualist –anti-intellectualist debate about the nature of know-how and whether or not it should be subsumed as a form of propositional knowledge (Bengson and Moffett 2007 and Stanley and Williamson 2001), or whether it should be considered a distinct, or even the dominant epistemological category, a view which is perhaps most strongly associated with Gilbert Ryle writing in the 1940s (Ryle 1946 and 1949). The debate really took on life once again with the publication of Stanley and Williamson (2001), but was foreshadowed by two important papers published by David Carr (1979 and 1981) respectively and also in White (1982). Unfortunately, the debate has largely been confined to the pages of mainstream epistemological journals, with little evidence of engagement either within or with the philosophy of education community. Notable exceptions include work by Kotzee (2016) and Winch (2009, 2010a). This is unfortunate as one of the features of this debate in the mainstream philosophical journals is a focus on a range of technical issues and a narrow range of examples, generally far removed from considerations of professional action.³

Intellectualist accounts come in two main forms, propositional and non-propositional (Bengson and Moffett 2011b). On the propositional account advocated by Stanley and Williamson (2001) for someone to know how to do something is for them to be acquainted with a way of doing that thing in a practical mode of presentation and in a contextually relevant manner (op.cit.p.430). For the non-propositional account (Bengson and Moffett 2007), for someone to know how to do something is to be acquainted with a way of doing that thing. In both cases, it is assumed that knowing how to do something involves a relationship with a way of doing that thing. The validity of this critical assumption does not seem to be questioned within the literature on the topic, although Ryle (1979) in his discussion of adverbial verbs had raised the possibility that there may be many different ways of doing the same thing. More radically we might question whether or not knowing how to do something does always presuppose that the agent knows a way to do that thing. It may be that

³ But see Wiggins (2012) for more complex examples.

an agent who knows how to do something, such as solving a problem, knows how to *find* a way to solve that problem. Another important consideration raised by Hornsby (2011), is that knowing how to do something does not involve being able to do it once, but repeatedly and with appropriate contextual variation. This would rule out the kind of singular instance of an action type being a sufficient condition of know-how along the lines that Stanley and Williamson advocate.

The anti-intellectualist Rylean account of know-how is generally thought to underpin vocational qualifications that depend on learning outcomes related to the carrying out of relatively simple tasks, such as lower level NVQs, trenchantly criticised by Hyland (1993). Despite the fact that many of Ryle's examples involve complex and quite intellectual activities such as giving courtroom speeches or playing chess (discussed in detail here by Gobet), it is reasonable to suggest that Ryle's work may have been an inspiration to the designers of the NVQ, a qualification suited to Taylorised routine semi-skilled work. However, it is perhaps more surprising to find that some intellectualist accounts can also lend themselves to such an interpretation (see Addis in this volume). According to Stanley and Williamson, it is sufficient for an agent to know how to F that the agent perform F on one occasion. This is equivalent to the third person manifestation of knowledge of a single proposition. Thus an NVQ descriptor could just as easily fit an intellectualist know-how attribution as could a non-intellectualist one if interpreted according to the approach recommended by Stanley and Williamson.

What is missing here? There are three points to make about the requirements for the proper attribution of know-how to an agent. The first is that the agent be able to repeat the relevant action in contextually variable situations (Hornsby op.cit.). Stanley and Williamson's intellectualist account does not meet this criterion.⁴ Bengson and Moffett's intellectualist account only requires that the agent be able to give an account of how something is done. Second, neither the strictly Rylean anti-intellectualist nor the intellectualist of either the propositional or non-propositional variety is capable of showing how it is that theoretical considerations have a bearing on professional action. This is quite disabling if one wishes to use either of these two approaches to know-how as a way of explaining professional action. Third, intellectualists, because they subsume know-how to a relationship between a knower

⁴ In 'A knows how to F', 'F' signifies an action-type, not a token action. Tokens of the type are subject to contextual variation.

and singular propositions, are unable to incorporate Ryle's insight about intelligence epithets into their accounts.⁵ One cannot apply an intelligence epithet meaningfully to someone's knowledge of a single proposition. Once again, this is disabling for a philosophical account that aims to explain what either senses of professional expertise involves.

But even here we have not fully set out the inadequacies of the capacity of intellectualism to account for professional action. Transversal abilities (what the Germans call *Fähigkeiten*) are critical to professional action. These are examples of the 'adverbial verbs' of which Ryle talked in his later work (see above) and cannot be reduced to ways of doing things. Critical to their mastery is the ability to accomplish diverse activities in ways that exhibit both independent action and the ability to co-ordinate with and pay regard to the work of others. They demand a degree of seriousness and attention that mark them off from the more routine exercise of skill and often involve both proximal and distal situational awareness (see Keestra in this volume). Whatever its shortcomings in failing to acknowledge the importance of systematic knowledge to practice, Rylean 'anti-intellectualism' is quite comfortable with the *Fähigkeiten* up to the point at which they do not require this.

The second area which is a blind spot for intellectualism in relation to professional action is that of *tacit knowledge*.⁶ Although there is a general consensus that tacit knowledge is only with difficulty, if at all, articulable by its possessor ('We know more than we can say' – Polanyi 1958), some commentators think of it in propositional rather than practical terms. In Psycholinguistic theory for example, tacit knowledge is a body of organised grammatical propositions which are 'cognised' rather than 'recognised' by a speaker as a condition of thought and communication (e.g. Chomsky 1988). Some commentators think that tacit knowledge can be captured in propositions and applied to computer-based expert systems, while others deny this but hold that some form of contextual but discursive articulation should be possible (Gascoigne and Thornton 2013). Our view is that tacit knowledge is an aspect of know-how which is beyond articulation, although some transfer might be possible through exemplification, imitation and practise (see also Read and Hutchinson 2011).

⁵ One might argue that the point does not apply to bodies of knowledge, such as might be held by an academic subject expert. However, the expert is not someone who simply know large collections of propositions, but is someone who can find their way around a body of knowledge, itself a form of know-how (Winch 2010b).

⁶ See Polanyi (1958) for one of the early uses of the term and for a systematic contemporary exposition see Gascoigne and Thornton (2013). Also see Addis in this volume on the difficulty of expressing tacit knowledge as knowing that.

Given that the issue is of enormous importance for professional action, one would expect that it would be addressed by the main currents of philosophical thought concerning know-how. Conventional intellectualist accounts struggle here. Stanley and Williamson's reliance on third person attributions of knowledge of ways to agents falls on the contextual variability of action-types, whose variation is often manifested through the tacit knowledge required to deal with this contextual variability. Since they are committed to a view that know-how can be manifested through knowledge of a way to F in a single instance, they have nothing to say either about contextual variability (as opposed to contextual appropriateness of a single action) or *a fortiori* about the ways in which variability is manifested in professional action.⁷ Tacit knowledge is also manifested in the ability to *find* a way to achieve an end, something about which intellectualism has nothing to say. The ability to employ tacit knowledge effectively is also in many cases a feature of relative expertise as opposed to novicehood or competence and underlies the attribution of intelligence epithets. Again, intellectualism has nothing to say about this. It is not surprising that attempts have been made to go beyond the intellectualist/anti-intellectualist dichotomy in seeking to gain a better understanding of expertise. Kotzee and Smit's article in this volume is an important contribution to this debate.

Towards a criterial conception of expertise

Kotzee and Smit in this volume distinguish between *constructivist* and *realist* accounts of expertise. Crudely speaking, the constructivist holds that expertise consists in no more than the attributions of expertise of others to the putative expert.⁸ Realists, on the other hand consider expertise to be a real epistemic attribute of an expert, whether this be conceived in practical or propositional terms or both. Kotzee and Smit maintain that there are elements of truth in both of these approaches to expertise and that they are reconcilable. We will not discuss the details of their argument here, but will go on to briefly outline another way of looking at the matter, which is related both to the discussion of know-how and expertise in the previous section, but also to our discussion of professional education below.

⁷ Bengson and Moffett (2011a) provide the case of Pat the ski instructor, who cannot do the stunts that her pupils are trying to perform. Nevertheless, she can give an account of how to do them and this is sufficient to attribute the relevant know-how to her, according to Bengson and Moffett. Whatever else one might say of this example, it is evident that Pat could not manifest any tacit knowledge in her knowing how to perform the stunts, since she cannot perform them.

⁸ We assume that they are referring to both constitutive and relative senses of expertise.

Our view is that professional expertise is delineated by criteria which allow a community to distinguish between novicehood, competence and expertise.⁹ These criteria are embedded in practices of training, habituation, education, evaluation and qualification which are more than intersubjective agreements: they have an institutional foundation with its own set of implicit ways of doing things and formal and informal rules for making necessary distinctions. In the case of professional education we expect these rules to be relatively formalised. Thus expertise is attributed by some to others, but the way in which this is done is far from arbitrary. Expert practise makes a real difference to how well an agent acts. This does not imply, however, that there are some identifiable attributes (like certain brain structures) which make an expert what s/he is, although they may be necessary conditions of experthood (see Kotzee and Smit, Gobet and Keestra in this volume), but rather the ability to meet relevant criteria, as evidenced in action, is what makes an attribution of experthood true or false and allows us to place our trust in professional qualifications, which are formal expressions of at least some of these criteria.¹⁰

How does a criterial account of expertise match up to the requirements that we set out in the previous section? We will address this question in relation to criteria for professional expertise and in relation to the implications for professional education and assessment. It might be objected that criterialism is just a form of realism in disguise, as to truly say that a criterion has been satisfied is to say it corresponds to the fact that the criterion has been satisfied. On the other hand, if a criterion is satisfied when an authoritative individual deems it to have been satisfied, then the operation of the criterion is socially constructed. So there is nothing distinctive about the criterial view of expertise.¹¹ To reply only briefly, on the one hand it does not follow that if it is true that a criterion has been satisfied that there is a corresponding fact that satisfies the criterion. That would only follow if one held that for any true proposition there is something in reality (a fact) which corresponds to it.¹² On the other hand, someone's saying that a criterion has been satisfied is not sufficient, on a criterial account, for that being so. Not only would the individual making the pronouncement have to

⁹ These latter two terms referring to constitutive and relative expertise respectively.

¹⁰ See Ellenbogen (2003) for a discussion of truth along these lines.

¹¹ A point made by Kotzee and Smit in correspondence with the editors.

¹² On the criterial account of truth developed by Ellenbogen, it does not follow from *p* is true, that *there is something real which corresponds to p*. This can be seen, for example, because truth criteria can be revised at a later date, without being invalid at the time they were part of a practice (Ellenbogen p.104-111).

be authoritative, but there would need, in the case of professional expertise, to be independently existing criteria against which such a judgement could be validated. Saying that it is so, even by a prestigious individual, does not make it so, there needs to exist a practice in which the application of the criterion operates.

The novice – competent practitioner – expert transition

It is a well-established practice that an initial professional qualification is a guarantee of the ability of the holder of that qualification to competently perform the requirements of the occupation. The criteria for a person being competent are embedded in the assessment arrangements that govern the award of the qualification. Some initial qualifications, as we have noted, specify higher levels of competence that may be achieved initially, as with BTEC Merit and Distinction awards, which have their own criteria which are more demanding than those required for a pass. An alternative is to consign the formal specification of an ascent in expertise through the provision of further post initial qualifications as in the case of the German Meister Certificate.

Fine-grained distinctions which allow for grading levels of expertise

The existence of formal criteria for ascent in expertise are relatively easy to understand and are well-established. A tougher proposition for a criterial account is the use of informal criteria for establishing both absolute prowess (progression from original competent state) and relative prowess (expertise relative to other practitioners). These kinds of judgements are made constantly in professional contexts and occur in circumstances in which intelligence epithets relevant to the occupation are deployed. How does one judge that one advocate is more persuasive than another, that a teacher has become more sensitive to the needs of her pupils over a period of months or that a journalist has become more astute in following up a lead? (See Lum on expansive assessment in this volume.) Judgements are invariably made by peers who are themselves more than competent, and may well themselves be expert relative to others in the field. They belong to a community who make judgements of this kind on a regular basis.

However, this is not enough in itself to establish criteria for the accurate application of intelligence epithets. There must exist a practice amongst experts of judging constitutive and

relative expertise and such judgements have to be put to the test through justification if necessary. Claim and justification will relate to how the agent practises occupational activities in relation to the aims of that activity, or to what MacIntyre (1981) calls its *internal goods*. We cannot rely on individual judgements of this kind if they are unmediated by some form of check, otherwise they become no more than statements of subjective opinion. This check has to come from the established activities of judging, explaining and justifying judgements and reaching agreement with other experts, perhaps using past experience, analogies and reference to aims and both internal and external goods.¹³ In other words, criteria for expertise arise within and are sustained by the activities of making qualitative judgements about professional action within a professional community. They are meaningful because they are constantly having to be renewed through explanation, debate and justification. Where these are not present to a sufficient degree, it is difficult to maintain that judgements are undergirded by criteria.

The point is a very important one for judgement of professional expertise. Formal criteria, such as are found in assessment practices for the award of a qualification, have to be applied. They need to be understood in such a way that those who apply them can agree in their judgements. Having formal criteria is not even a necessary, let alone a sufficient, condition of reliable criterial judgement if it is not sustained by a common view about how those criteria are to be applied, for example by specifying hours of study and content (Ofqual 2016). This can only come about if the kinds of informal practices described above underpin the use of the formal criteria. One further condition needs to be in place for the existence of a criterial practice. Once agreement is reached, it is accepted as authoritative, the judgement of the (relative) expert practitioners in the practice is authoritative and cannot be subject to legitimate questioning.¹⁴ The variety of the kinds of intelligence epithets to be applied, ranging from the situational, technical, theoretical, social, and aesthetic to the moral dimensions, ensures that the range of facets of performance that need to be judged for their

¹³ See Hager (2011) for an argument that internal and external goods are closely related. The controversy over Walter von Stolzing's prize song in Wagner's the *Meistersingers* provides an example of the pitfalls of using very rigid criteria in judging excellence.

¹⁴ Care needs to be taken with this point. Others may disagree, but the judgement of the expert community must hold for any high stakes decisions such as awarding prizes, qualifications, promotion etc, unless it can be shown that the criteria were not properly followed. In this sense, the judgements of the occupational community are *indefeasible*. This does not mean that the criteria which sustain judgements cannot be *revised* over time. Indeed they often are. Occupational practices usually do change over time, even if the change is sometimes almost imperceptible. See Ellenbogen (2003) for more on the distinction between defeasibility and revisability in relation to the application of criteria.

relative expertise is covered. We can therefore conclude that the informal application of intelligence epithets within expert groups within occupational communities underpins criterial judgements of occupational expertise.

The Assessment of Expertise in Multiple Situations and in Hypothetical Situations

It is an important feature of many professional practices that they encompass a variety of different situations and contexts, making the practicality of direct observation of action problematic. How can expertise criteria be applied in such circumstances? We need first to distinguish between assessing expertise in multiple situations, from assessing it in hypothetical ones. First, one would expect the appropriate degree of flexibility and situational awareness in exercising know-how across a varied landscape of different situations and the criteria for expertise would need to recognise ability to adapt to varied situations, for relative expertise quite possibly to a considerably greater degree than for an agent who is just competent. Keestra, in this volume, makes good points about this, drawing attention to the expert managing automatic responses and situational adaptability while, at the same time, keeping in mind the aims of the activity (see also Hager 2011). All those who are competent will be expected to do this, but one would expect an enhanced ability from an expert, which could include a better understanding of the situation from a theoretical perspective (what evidence of this kind might be evidence of) and enhanced perceptual ability (see Winch in this volume).

Given the variety of situations that a complex occupation is likely to offer, it is unlikely that assessment at any level is likely to be able to encompass *in situ* assessment in anything other than a small proportion of them. The assessment of expertise in such situations depends on forming a judgement as to the agent's *understanding* of a situation on the one hand and on the quality of the kinds of explanation they offer concerning courses of action on the other. In such circumstances one would expect a profound grasp of the systematic knowledge underpinning the occupation, coupled with an ability to know where to access relevant knowledge if necessary, together with an ability to apply that knowledge to complex situational circumstances (c.f. Eraut 1994). Once again, formal criteria can be deployed to assist with judgements in such situations, but as pointed out above, such formality depends on

an underlying practice of making judgements which, in turn, depend on something like agreement in judgement (Wittgenstein 1953 §242).¹⁵

Underlying Theoretical Knowledge

We have already noted the importance of underlying theoretical knowledge in forming judgements about actions in hypothetical situations. But what can we say about the possession of relevant theoretical knowledge in terms of expertise? The relative expert is in possession of a considerable amount of applicable theoretical knowledge which s/he should be able to readily deploy. One would normally expect such knowledge to be wider and deeper than that of the competent practitioner and thus to involve considerable further study (see Syben 2008 on the *Polier*, a senior construction worker in Germany). Such grasp involves being able to find one's way around the body of knowledge, by being able to make appropriate connections through inference and perhaps most notably by being able to demonstrate the ability to critically assess or even to advance the body of knowledge. Such abilities mark the difference between a *technician* (an applier of theoretical knowledge) on the one hand and a *technologist* (a contributor to the practical side of the theoretical knowledge) on the other, and perhaps even a role as a researcher within the relevant field (Winch 2013). It is not difficult to see that the criteria for ascent to such a level of professional expertise can be handled through largely academic criteria of excellence, albeit adapted to the need to demonstrate relevance to professional action. For this, professional curricula are required, adapted to the needs of the technologist rather than the non-applied researcher. Such curricula provide the basis for formal criteria for the assessment of underlying theoretical knowledge.

Tacit Knowledge

What, finally, of the tacit knowledge that is so important a feature of expert professional practice? By its nature, this cannot be adequately captured in discursive criteria, so we are

¹⁵ We do not mean by 'practice' anything that carries a great deal of philosophical baggage such as is to be found in MacIntyre's work. A practice is a collective way of acting and judging which carries its own normative order. It is closely related to the concept of a *normative activity* as described in Baker and Hacker 1985. That said, MacIntyre's account of practices has some useful features, most notably in emphasising features that are common to a lot of normative activities, including the kind that we are concerned with here. These include the activity having a point and the satisfactions that are to be gained from participation (one aspect of MacIntyre's 'goods').

obliged, if we are to use criteria at all, to accept that these must be *informal*, but it does not imply that in terms of professional expertise, we have to accept that they are *implicit*. The assessment of professional expertise sets more demanding conditions than the assessment of expertise more generally, because the stakes are higher. Thus, even if one does not expect complete reliance on formally stated criteria, there must be a basis for justification of judgements and this in turn implies the ability to debate the applicability of informally held criteria in coming to judgements and then, usually, benchmarking these against formal criteria. Thus the possession of tacit knowledge can fall under a criterial account of expertise.

We can conclude, through a sketch of how a criterial account of expertise might work, that it is at the very least a plausible way of thinking about, not only competent practice (constitutive expertise), but the way in which expert practice (relative expertise) might be distinguished from competent practice.

Implications of the Contributions to the Design and Conduct of Professional Education and Assessment

The remainder of this introduction will deal briefly with how the discussions in this volume impact upon professional education and assessment in both constitutive and relative senses of expertise. It has already been noted that the way in which we deal with expertise in professional action differs in significant ways from how it is dealt with in non-work and non-professional situations more generally. Professional education almost invariably takes place within a formal structure with its own specific educational categories. Thus we expect certain *values* to underlie a profession and these should receive embodiment both in the *aims* of the professional education and quite probably in a specific *code of ethics*. We also expect to find a prescribed content for that education at varying levels of qualification, in other words, a *curriculum*. *Pedagogy* can be quite variegated as it is likely to include episodes in a classroom, simulated professional experience and a considerable amount of work-based learning, perhaps necessitating specialised forms of pedagogic expertise. Finally, *assessment* is almost certain to loom large as the guarantee that a practitioner is competent or expert has to be accepted, not just within the profession itself, but by the government and the public.

So what implications do our contributions have for our understanding of these requirements? Let us first have a look at the values and aims that underpin professional education. These

will be intimately related to the values and aims of the occupation for which it is a preparation. Who should those be, whose responsibility it is to articulate and maintain those values and aims? One natural response is to mention those who are experts within the profession. However, since it is most likely that the profession will have an impact not only its clients but also on the broader society affected by its operations, it would be natural to assume that those others affected ought also to have a role, even though they may not be experts in either sense of that term. Whatever arrangements are actually made, the role of experts within the occupation is likely to be critical. They are, in a sense, the custodians of the occupation and the interpreters of its interests. It is quite likely that they will hold their roles of influence through appointment or election to trade unions or to collegial bodies concerned with the governance of the profession.¹⁶

One of the most important elements of professional education is the design of the curriculum. For the importance of perception in this see Winch in this volume. Before this can be done however, the aims of education in any given profession have to be negotiated. Some, however, might dispute this. They might argue that the important issue is what a practitioner can *do* and secondly, what he has to *know* in order to do what he has to do. This means enumerating the kinds of things that he has to do and then inferring what he needs to know in order to do what he has to do. Here we have two contrasting approaches to the design of a professional education. We deliberately do not say to the design of a professional *curriculum*, because it is not clear that, in this latter conception of professional education, a fully articulated curriculum is required. Even if it is, it can be set out in terms of a series of *learning outcomes* and associated *assessment criteria* for those outcomes. Broadly speaking, this approach is well-suited to an occupational governance approach where the employer is the primary determinant of the professional qualification. The employer works out what the required professional tasks will be and it is the job of the qualification designer to translate these into learning outcomes and assessment criteria. This, broadly speaking, is the approach adopted in the UK. Such an approach typically leads to a preoccupation with the tasks that need to be accomplished and hence to the know-how needed to accomplish them. It is often assumed that once the tasks have been carefully specified, the *skills* needed to undertake them

¹⁶ In some European countries, occupational governance occurs through *social partnership*, an arrangement whereby trade unions, employer organisations and the state collectively determine the nature and structure of the values, aims and curriculum of a professional education (see Streeck 1992; Brockmann, Clarke and Winch 2011).

successfully can be deduced. We will call this generic approach to professional curriculum design the *learning outcomes* approach.

The major alternative is to think in terms of the aims of the occupation and to reflect its values in the explicit aims stated. Thus, one might think in terms of what one would like a doctor, lawyer, engineer, plumber, teacher or farmer to be like in terms of their values, the scope of their activities and the primary abilities that they are going to require. For example, one might wish to think of a doctor as someone with the technical ability to engage in diagnostic and curative work, but also with the attributes of a teacher who can help prevent illness through addressing prevention by advice and education. A doctor might also need to be a *scholar*, not only to master the underlying theoretical knowledge that forms the basis of the great majority of his professional judgements, but also in order to maintain his knowledge within the field and, potentially to become an advancer of knowledge within the profession, whether as a technologist or as a researcher. Thus the aim of the professional education of a doctor might be to develop a person who is, in medical terms a *technician*, someone who can operate in a theoretically informed way across the range of diagnostic and curative roles expected; as a *scholar* able to keep up with developments in the field and to be potentially capable of contributing to those developments and as an *educator* who can assist good health with preventative work among the public and perhaps act as a mentor to junior members of the profession. It would be natural then, to think about the kind of curriculum and pedagogy that would be necessary to develop a practitioner with those attributes. We will call this broad approach to professional curriculum design a *holistic* approach.

While the learning outcomes approach starts with the tasks to be performed by the agent, the holistic approach starts with broad attributes and works steadily downwards to greater detail in terms of specific knowledge and abilities. Thus, at a relatively early stage in the design of the curriculum we might wish to come to a decision about the degree of independence and the degree of ability to engage in teamwork independently of managerial supervision that we might wish for from the agent. This, in turn, might lead us to consider the extent to which the agent would be expected to plan, control, coordinate and communicate as well as his ability to evaluate the quality of his own work, either individually or in teams. Appreciating that there may be multiple realisations of these abilities, particularly in varied situations, we might hesitate to specify the skills *necessary* to carry them out, while ensuring that the agent had available an array that was *sufficient* to cope with all contingencies. Furthermore, experts

with responsibility within the curriculum design team would realise that the routine carrying out of skills, however conscientiously performed, would not be sufficient for competent performance and would ensure that pedagogical approaches were adopted that ensured as far as was possible, that candidates for a professional qualification approached their work with the requisite level of seriousness and attention to ensure, for example, not just that planning or coordination skills were exercised, but that they were actually able to plan and coordinate. Such an approach would not exclude the development of a large array of quite specific technical skills, but would ensure that they were placed within a framework of broader occupational capacities.

These two broad approaches to professional curriculum design reflect design philosophies to be found in Northern Europe in the case of holistic qualifications and in the English-speaking countries in the case of the learning outcomes approach. What implications do these design philosophies have for the development of expertise in both the constitutive and relative senses? It should here be stressed that these two contrasting approaches are ‘ideal types’ and in practice hybrid versions of each will often be found.

Aims and values

Holistic-type qualifications tend to stress high-level objectives within a moral and civic context. Thus qualifications within the German Dual System emphasise overall (and reflective) occupational capacity (Nehls 2014; Bosch 2014) before breaking these down into subcomponents, called ‘Kompetenzen’, although these bear only a superficial resemblance to competences in the English sense. Although these qualifications are primarily related to constitutive expertise, they include the competence to maintain and improve one’s expertise (called *Methodenkompetenz* -see <http://wirtschaftslexikon.gabler.de/Definition/methodenkompetenz.html>), described, incidentally in terms of *Fähigkeiten*, rather than *Fertigkeiten* or skills.).¹⁷ Another example concerns the German federal standards for teachers. Among five overarching aims is included the ability to develop one’s expertise (Kultusministerkonferenz 2004, standards for teacher education, p.4). By contrast, in the learning outcome framework influential in the UK, overarching aims tend not to be emphasised and indeed may not appear at all. Thus the BTEC Diploma in Agriculture at level 3 only contains aims for each module in the overall

¹⁷ Gabler Wirtschaftslexikon, consulted January 2017.

qualification, each one framed in terms of knowledge, skill and understanding necessary to carry out certain tasks (City and Guilds 2012). Teaching qualifications in England are based around standards, but these are standards of compliance rather than of overarching aims for the profession of teaching. Even British medical education does not have overarching aims, concerning what a doctor should be, but rather a set of criteria prescribing what a doctor should and should not do. These come close to the kind of standards used for German teachers but are expressed more in terms of compliance rather than overarching competences (http://www.gmc-uk.org/guidance/good_medical_practice/professionalism_in_action.asp)

This contrasts with the stated aims of German medical education, which have an overarching aim of a doctor who is both scientifically and practically competent, who takes individual responsibility for his/her actions and who is capable of both further education in medicine but also in deepening and extending existing competences.

(https://www.gesetze-im-internet.de/appro_2002/BJNR240500002.html)

There follow seven sub-aims, which include the social and historical dimensions of medical practice.

Curricula

Quite often learning outcome style qualifications do not have explicit curricula. Where they do, as in some BTEC qualifications, learning outcomes play the role of module aims. These are ‘hybrid’ learning outcome qualifications, as they use the learning outcome terminology but are in fact content-based. By contrast, many professional qualifications of the learning outcome variety do not set out explicit curricula. These can only be inferred from the learning outcomes and associated assessment criteria. The position is somewhat different for qualifications at level 4 and above, although for example some teaching qualifications appear to have little if anything in terms of curricula (see the proposed Apprenticeship in Teaching). By contrast, medical qualifications, which bear more of a resemblance to holistic qualifications, do. Holistic style qualifications, by contrast, almost always set out the prescribed content that needs to be learned in order to meet aims.

Pedagogy

Within a holistic conception the integration of theory and practice needs to be built in to articulated sequences of classroom, simulatory environment and workplace. By contrast in the case of learning outcome qualifications workplace or near workplace performance is the ideal to be aimed for. There is much less mandatory use of procedures for developing the

ability to integrate systematic knowledge with practice, although this is still the case with many qualifications at level 4 and above, particularly those in the traditional professions. It should also be noted that the higher level professional qualifications in Germany also prescribe a mixture of very extensive demonstrable workplace competence showing relative expertise, with extensive formal study.

Assessment

In the case of holistic qualifications, full occupational capacity is aimed for, which requires a series of assessments that can capture its full range. This may well include advanced workplace competence, particularly at the relative expertise level for higher qualifications. In the case of Learning Outcome qualifications, workplace competence according to assessment instruments derived from Learning Outcomes and assessment criteria is deemed to be sufficient.

Conclusion

Theorising expertise matters for effective professional practice and its development so the preceding philosophical discussions have important applications for educational practice, curriculum design and assessment. There is nothing as practical as a good theory and we neglect the philosophy of professional education at our peril.

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